

Dean's Newsletter January 10, 2005

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State of the School 2005

In January 2001 I began a series of visits to Stanford in anticipation of assuming my decanal responsibilities that April. The discussions I had with faculty, students and staff during that interval, along with my own reflections, helped shape the underpinning for the School's Strategic Plan, which was later designated as *Translating Discoveries*. Indeed, in my first Dean's Newsletter circulated on April 2, 2001, my first official day at Stanford, I reviewed some of my preliminary ideas, a number of which have been actualized through the wonderful engagement and participation of the Stanford Medicine and University community.

As we begin 2005 a number of exciting programs have been initiated while others are preparing to unfold. Naturally these programs are constantly evolving as we strive to continue to develop and enhance the excellence of Stanford Medicine. So it is best to view even this summary of the "2005 State of the School" as a snapshot of some cameo highlights rather than a complete description of the School's programs and initiatives..

Education

Thanks to the efforts of Dr. Julie Parsonnet, Senior Associate Dean for Medical Education and her colleagues in the Dean's Office and Medical Faculty Senate, progress on the New Stanford Curriculum is continuing. As you know, the first major changes were made in the Fall of 2003. They were guided by the desire to better align learning in basic and clinical science and medicine, to create time for scholarly research, and to prepare students for lifetime learning. One of the most important changes is that medical students entering since September 2003 have been required to select a Scholarly Concentration from one of ten possibilities (http://med.stanford.edu/md/curriculum/scholarly_concentrations/index.html). The objective is to immerse them in an area in which they have an interest and through which they can acquire critical thinking skills and analytic research experience. Because research is such an important facet of Stanford, we believe that the New Curriculum better aligns medical students to our faculty and mission and that it will, by its very nature, permits us to select students who are truly interested and committed to what we can offer as a research-intensive school of medicine.

While these programs offer exciting new possibilities, they also result in clear differences between the new and old curricula. Indeed those students who are not part of

the “New Curriculum” might easily feel somewhat disenfranchised – which we certainly hope is not the case. Generations of students have benefited from the prior curricula and we are confident that our more senior students will do the same! At the same time, we do believe that the many changes in the New Curriculum will better enable us to train future students to be excellent clinicians and leaders in an area of medicine or bioscience.

Over the next year we will continue the redesign of clinical rotations. In tandem we are putting in place tools and processes to evaluate the efficacy of the New Curriculum and to translate those findings into additional curricular improvements over time. These will include new technology tools to be developed by our recently established Center for Immersive and Simulation-based Learning.

We are also continuing to seek ways to establish appropriate alignments between medical and graduate students. These are particularly important at Stanford because of the strength and excellence of our graduate programs as well as the fact that we have a nearly comparable number of medical and graduate students. The composition of our student body is quite different from other medical schools but is quite compatible with our position as a research –intensive school of medicine. We are also developing courses and programs that will enable graduate students to learn more about the challenges and opportunities in translational medicine, and we are anticipating the development of a Masters Program to facilitate these educational opportunities. In addition, we are pursuing efforts to create more interdisciplinary programs. We hope the University-wide Commission on Graduate Education discussed in the October 4th Deans Newsletter will further these efforts. A question for the future is whether graduate programs in the School of Medicine should become more discipline based as compared to departmentally anchored.

Numerically our Postdoctoral Fellowship programs eclipse both our MD and PhD graduate programs. They serve as a critical interface between the laboratory and clinic as well as a key facet of our research engine. During the past year we have been exploring ways of making our postgraduate programs even stronger and will be introducing a program that will enable selected clinical postdoctoral fellows to pursue concomitant graduate studies if they are committed to a career in research.

This past year we also launched the self-study phase of our review by the Liaison Committee on Medical Education (LCME), which will formally review the School in October 2005. This is an important review and significant efforts are underway to assure that we truly shine in our written and oral presentations.

Research

What distinguishes Stanford from nearly all of its peers is the extraordinary quality and impact of the research performed by faculty, students, postdocs and staff. By nearly any standard, Stanford scientists continue to contribute to a broad array of new discoveries, innovations and insights. Basic undirected research serves as the fundamental underpinning of this excellence and ultimately fuels the ideas that drive opportunities for translating knowledge from the laboratory to the bedside. While we are

a small faculty compared to peer schools, the impact of our work is considerable and cannot be reduced to a short summary or even a readable listing. While some highlights appear on our current Stanford Website (<http://med.stanford.edu/spotlight/index.html>) these stories are just a sampling. The recently posted "Community Academic Profiles" of our faculty (<http://med.stanford.edu/research/cap.html>) offer an opportunity to explore the breadth and depth of ongoing faculty research efforts.

Complementing our efforts in basic research are those focusing on clinical and translational investigation. To help facilitate the integration of our research activities we have established our four Stanford Institutes of Medicine. More recently, we have been developing three "strategic centers" that will also help integrate our overall research mission. The Institutes of Medicine are:

1. ***Stanford Institute for Cancer/Stem Cell Biology and Medicine: Dr. Irv Weissman, Director***
2. ***Stanford Cardiovascular Institute: Dr. Bobby Robbins, Director***
3. ***Neuroscience Institute at Stanford: Dr. Bill Mobley, Director***
4. ***Stanford Institute for Immunity, Transplantation and Infection: Dr. Mark Davis, Director***

The Strategic Centers are:

1. ***Center for Clinical Informatics: Dr. Henry Lowe, Director***
2. ***Center for Genomics and Human Genetics: Dr. Rick Myers, Director***
3. ***Center for Imaging: Dr. Gary Glazer, Director***

Together the Institutes and Centers provide an umbrella that engages the interests of nearly all our faculty. They create a virtual bridge between our basic and clinical science communities and between the School and other sectors of the University. They open new venues for research and, importantly, for opportunities to extend findings to patients at our major affiliated hospitals.

Each of our four Stanford Institutes of Medicine is taking shape, both in their own unique ways and in relation to each other. I am confident that considerable additional progress will be made in 2005 to further establish their goals, objectives and early accomplishments. In this regard, the Cardiovascular Institute, under the leadership of Dr. Bobby Robbins and the Institute's Executive Committee, held a retreat on Friday evening January 7th and Saturday morning January 8th. I had the pleasure of attending the Friday night session and witnessing personally that more than 100 members of the Stanford community had demonstrated their interest in participating in one or more work groups that will address important challenges and questions. This work will surely lead to important new initiatives and opportunities for research, education and patient care. Similarly, the Cancer/Stem Cell Institute is planning a retreat for Monday January 31st that will further organize Stanford's role in stem cell research and our relationship to the new California Institute of Regenerative Medicine (and Proposition 71). I know that the

Neurosciences Institute and the Immunity, Transplant and Immunology Institutes are also actively planning their future agendas.

During the past year we have made further progress in our march toward applying to become a National Cancer Institute-Designated Comprehensive Cancer Center. Thanks to the efforts of Dr Karl Blume we have been able to configure the nine core research programs and 13cores (a.k.a. “shared services”) that we anticipate will be parts of the grant application we hope to submit later this year. In the Fall I appointed Dr. Irv Weissman to serve as the Principal Investigator for our planned Center. We are close to completing the recruitment of a superb Deputy Director, who will work closely with Dr. Weissman as well as Dr. Steve Leibel, Medical Director for the Clinical Cancer, and Dr. Blume to bring the grant proposal to fruition. We benefited from the advice of our External Advisory Board, which met with us in March 2004, and we plan another critical review by this Board in the late Spring or early Summer of 2005. We have also been fortunate in forging a collaboration with the Northern California Cancer Center (NCCC)that was formalized at the end of 2004 with an Affiliation Agreement. This Agreement, plus the faculty appointment of Dr. Dee West, Professor of Health Research and Policy, and Chief Scientific Officer for the NCCC, will provide the collaborative expertise that will permit the population studies component of our proposal to be robust and exciting. Although we have considerable work to do, we have made terrific progress and there is reason for optimism that Stanford may finally actually apply (and, hopefully, succeed) in achieving NCI-designation as a Comprehensive Cancer Center.

The joint Bioengineering Department between the Schools of Engineering and Medicine got off to a great start during the past year. Specifically, Scott Delp, Department Chair and Paul Yock, Co-Chair, successfully completed three wonderful new faculty recruitments (Drs. Karl Deisseroth, Jennifer Cochran and Steve Quake) to help launch the department and also admitted the first group of graduate students. Plans are proceeding for additional faculty recruitments as well as for offering an undergraduate major in the next couple of years.

Further, BioX continues to evolve under the leadership of Dr. Matt Scott, Professor of Developmental Biology and Genetics and Bioengineering. BioX is one of the major interdisciplinary themes of the University, along with the Institute on the Environment and the International Initiative. As noted in prior Newsletters. BioX includes a number of important programs, such as the Interdisciplinary Initiatives Program, the Advanced Instrumentation Program, the BioX Teaching Initiatives and the BioX Symposia and Seminars. In a number of important ways BioX serves as a prototype of the university of the future. It brings together disciplines from across the University in ways that not only align the physical and life sciences but also create relationships with ethics, the humanities, education, business, etc. This cross-cutting, broad interdisciplinary activity is just one of the ways in which Stanford is unique, and it is clear that it is also an important part of the future of the School and the University.

Patient Care

In the Fall of 2004, Chris Dawes, CEO of LPCH, Martha Marsh, CEO of SHC, and I prepared a draft report describing the common elements of strategic planning within the three entities of the Stanford University Medical Center (SUMC): the School of Medicine (SoM or School), the Stanford Hospital and Clinics (SHC), and the Lucile Packard Children's Hospital at Stanford (LPCH). This effort began in 2001, when the School and the Hospitals initiated a more integrated, comprehensive strategic planning effort to articulate individual and shared institutional priorities within a unified medical center context. The draft report is a work in progress; nevertheless, I provide some of its key elements in the following paragraphs.

Our overarching goal in this strategic planning effort has been to create an exciting, robust and unique plan that truly differentiates Stanford from other healthcare providers, as well as other academic medical centers. Key to this plan is the recognition of Stanford's unique attributes. These include great strength in basic research, biosciences graduate education and postdoctoral training, a reputation for clinical innovation and discovery, successes in translating new research findings into healthcare improvements for adults and children, and a commitment to the continued delivery of outstanding patient care and clinical service.

Essential to the success of a strategic plan for SUMC is the development and implementation of a sustainable business model that ensures support for on-going programs as well as opportunities for investment in new programs and facilities. Integral to such a business model is an explicit recognition of the extraordinary advantages, balanced against the increasing costs, of program development within the core Stanford campus. External environment issues that may dramatically impact the future of SUMC include potential changes to MediCal and Medicare programs, increasingly aggressive regional competition from Kaiser and Sutter, and employer resistance to continuing annual increases in healthcare premiums. Therefore, as the SUMC business model is developed, the leadership of all three entities are maintaining focused attention on the changing local and national landscape of healthcare delivery and economics and of academic medicine.

The missions within SUMC are both unique and overlapping. Indeed, the shared visions and essential interdependences of the School of Medicine, the Stanford Hospital and Clinics, and Lucile Packard Children's Hospital at Stanford are clearly expressed in each mission statement.

The School of Medicine's mission is to be a premier research-intensive school of medicine that improves health in the twenty-first century through our discoveries, leadership, and innovations in education, patient care, and biomedical and clinical research. The Hospitals are critically important to this mission. Analogously, the mission of Stanford Hospital and Clinics is "to care, educate, and discover for the benefit of our patients and the larger community." The mission of Lucile Packard Children's Hospital is "to serve our communities as an internationally recognized pediatric and obstetric hospital that advances family-centered care, fosters innovation, translates discoveries, educates healthcare providers and leaders, and advocates on behalf of children and

expectant mothers.” Driven by these shared missions, the SoM, SHC and LPCH leadership teams have developed, and are continuing to refine, an exciting vision that will strengthen Stanford’s reputation as a premier Academic Medical Center (AMC).

The key tenets of the vision are:

- *To create knowledge through research and innovation.*
- *To educate future leaders in medicine and the biosciences.*
- *To translate discoveries in medicine into efficacious, efficient, and cost-effective clinical care.*
- *To improve the health of patients with state-of-the-art diagnosis and treatment.*

Within this framework, planning to date has been based on three guiding principles. First, SUMC is uniquely positioned to rapidly translate new research findings into clinical care paradigms. Second, SUMC must deliver outstanding patient care and clinical services. Third, a sustainable financial model and its robust execution are critical to supporting the strategic vision.

SUMC is fundamentally an *academic* medical center, deriving its unifying purpose and distinction from its educational and research/innovation missions. While each entity must acknowledge and address the unique financial and social obligations of their respective “businesses,” the educational and research missions are critically important in that they enable our success as an academic medical center.

The School of Medicine strategic plan, *Translating Discoveries* (<http://medstrategicplan.stanford.edu/>), provides an integrated vision for biomedical science and education in the twenty-first century. It seeks to leverage existing strengths across the spectrum of research (basic to clinical) and of education (biosciences graduate and medical) through the creation of cross-disciplinary teams and curricula. The combination of the School’s strategic plan and the SHC and LPCH strategic service lines allows for the emergence of a true academic medical center, unique in its ability to translate discoveries and to prepare physicians and scientists with the skills and understanding needed to confront the chronic as well as the emerging issues of human health.

To this end, each of the School’s Institutes of Medicine has, in addition to a core mission of translational research and translational education, a clinical strategic service line counterpart. These medical center-wide strategic alignments are:

Stanford University Medical Center <i>Institutes and Clinical Centers</i>				
School of Medicine		SHC		LPCH
Stanford Institute for Cancer and Stem Cell Biology	↔	SHC Cancer Center	↔	LPCH Center for Cancer & Blood Diseases

Neurosciences Institute at Stanford	↔	SHC Neurosciences Center	↔	LPCH Brain and Behavior Center
Stanford Cardiovascular Institute	↔	SHC Cardiac Center	↔	LPCH Heart Center
Stanford Institute for Immunity, Transplantation, and Infection	↔	SHC Liver, Kidney, and Pancreas Transplantation Center	↔	LPCH Transplant and Tissue Engineering Center

The successful and rapid translation of knowledge from the basic sciences to its application to improve the diagnosis, treatment, and prevention of human disease will be one of the most sustainable differentiators for SUMC. Related clinical initiatives at SHC and LPCH are discussed below.

Cancer

Adult Cancer: Cancer is the second leading cause of death in the United States. Currently, about 500,000 of the 9 million people with cancer in the United States live in the Bay Area. Cancer treatment is becoming increasingly outpatient due to advances in diagnostics, drugs, and radiology-based therapies. A new dedicated, patient-focused cancer center, a nationally renowned medical director, and a strong tradition of combining research and clinical excellence are some of the key strengths of the Stanford cancer program. The School is seeking to enhance its cancer programs by applying to the National Cancer Institute (NCI) to become a designated Comprehensive Cancer Center.

Stanford's competitive advantage is based on its leading edge basic and translational research,¹ its focus on patient support as an integral part of the care program, and its multidisciplinary approach to cancer care. This advantage will be enhanced by the work of the Stanford Institute on Cancer/Stem Cell Biology and designation as an NCI Comprehensive Cancer Center.

Near-term strategies that are critical to the program's success include the development of a formalized clinical trials network to drive volume, the pursuit of joint-venture programs at the outer border of the local market, and the development of Stanford oncology outreach programs in the Bay Area.

Successful execution of the above plans and strategies should result in the growth of Stanford inpatient volumes of between 3% and 5% per year through 2008. Outpatient volumes are expected to grow 3% to 6% over the same horizon.

¹ Especially in stem and bone marrow cells research and its applications

Pediatric Cancer and Blood Diseases: The Center for Cancer and Blood Diseases at LPCH is the market leader for pediatric hematology and oncology care in the Bay Area. It has experienced 9% growth in inpatient activity over the last five years. Many Center faculty members hold leadership positions in the Children's Oncology Group (an NCI-sponsored clinical trials cooperative group), and the majority of our hematology/oncology patients are enrolled in a clinical trial of some type. Future growth will be facilitated by the completion of the new Pediatric Clinical Cancer Center on the first floor of the hospital in FY06. This comprehensive facility will include 27 inpatient beds and a contiguous day hospital and outpatient clinic. Recent recruitments and investments in Cancer Biology and the Center's clinical trial infrastructure will help ensure that the Center remains on the forefront of new developments in clinical care. The recruitment of a new leader of the stem cell transplant program is has been achieved with Dr. Ken Weinberg from USC. Recruitments in stem cell transplantation and the recent arrival of Dr. Michael Edwards in neurosurgery will very likely generate dramatic growth in both transplantation and neuro-oncology. The number of brain tumor patients is expected to more than double, and the number of stem cell transplants may triple.

Neuroscience

Adult Neuroscience: Nationally, the neurosciences market is large and growing. Approximately 12 million Americans are living with a neuroscience disease or disorder. Hospital-based neuroscience disorders decreased slightly in the 1990s primarily due to the shift from inpatient to outpatient-based care. Market analyses predict increased demand for care over the next ten years driven by the growth and aging of the population as well as technological innovation. Stanford Neuroscience has significant clinical distinctions, particularly in the treatment of stroke,² Moyamoya's disease, and CyberKnife radiosurgery.

Stanford's competitive advantage in Neurosciences is based on the strong collaboration among neurologists, neurosurgeons, and neuroradiologists; the integration of the neuroscience research and clinical communities; and expertise in minimally and non-invasive surgical techniques. The new Neurosciences Institute at Stanford enhances this advantage. Near-term strategies critical to the program's success include expanding the scope of clinical trials to drive volume, maintaining a technology edge with investments in radiosurgery techniques, and building partnerships with hospitals with limited neuroscience offerings.

Successful execution of these strategies should result in the growth of Stanford inpatient volumes of 2% per year through 2008.

Pediatric Neurosciences: LPCH's Brain and Behavior Center is focused on becoming a leader in translating neuroscience discoveries to innovative methods for diagnosing, treating, and preventing neurological disorders in children. The Center integrates the clinical care, basic research, clinical research, and community outreach activities of the Departments of Neurosurgery, Neurology, and Psychiatry and Behavioral Sciences and the Neuroscience Institute at Stanford. The principal initiative of the Center this past

² SHC recently achieved national recognition as a certified Stroke Center

year has been to recruit a nationally preeminent pediatric neurosurgeon to enhance care available for children with brain tumors – which has been achieved with Dr. Mike Edwards. Other priority initiatives for the next several years include: (a) establishing a program to support clinical care and research for Down Syndrome patients; (b) recruiting a senior leader for the Child Neurology Division; and defining new areas of innovation in translational developmental neuroscience. Growth in patient discharges is projected to be more than 60% over the next decade as the Center evolves further into a regional and national referral center.

Cardiac

Adult Cardiac: Cardiac disease is the leading cause of death in America. The population living with cardiac disease is large and growing – approximately 60 million Americans have some form of cardiac disease. Stanford is able to leverage a series of “firsts,” including the first heart transplant in the U.S., the first heart/lung transplant in the world, and one of the first left ventricular assist device (LVAD) procedures in the world. Stanford dominates the market in programs involving a high percentage of complex procedures. Several of Stanford’s most successful cardiac programs have a broad geographical base, with over 20% of the volume for heart transplants, aorta and valve procedures coming from outside the Bay Area. Stanford also has a strong international cardiac market with cardiac patients representing more than 50% of overall international business.

Stanford’s competitive advantage is based on its unique capabilities in treatment of thoracoabdominal aneurysms and Marfan’s syndrome, its high volume complex procedures with excellent outcomes, its strong linkages to the various research institutes at the SoM as well as other schools at Stanford³, and our preeminence as a Reynolds Foundation Cardiovascular Research Center. The Stanford Cardiovascular Institute will further shape this agenda. .

Near-term strategies critical for the program’s success include sustained excellence in translational medicine and program development, developing “win-win” relationships with referring physicians, and increasing high-end, niche program volume from target markets. This will be further enhanced by the recruitment of additional cardiology faculty and further rejuvenation of the cardiovascular surgery program.

Successful execution of the above should result in the growth of Stanford inpatient volumes of 2% per year through 2008 with stronger growth in certain key areas such as aorta valve and heart transplant procedures.

Pediatric Heart Center: The Children’s Heart Center is focused on sustaining its leadership position as one of the world’s premier centers for the development of new

⁴ Some examples of linkages include the Cardiovascular Medicine Institute, the Immunology, Transplantation and Infection Institute, the Reynolds Center for Cardiovascular Genetics, the Cardiovascular Magnetic Imaging Research Center, the Lucas Center for Magnetic Resonance Spectroscopy and Imaging, and the Institute for Cancer/Stem Cell Biology and Medicine.

paradigms in the care of children with heart disease based on advances in the fields of bioengineering and molecular biology, and on delivering these advances to the bedside. In contrast to the adult cardiac service at SHC, the LPCH Heart Center is focused on congenital diseases and defects. The Heart Center integrates the clinical activities of pediatric cardiac surgery, cardiac anesthesiology, cardiac intensive care, cardiology, cardiac catheterization and cardiac imaging into a comprehensive service line. The Heart Center is a regional service; SoM cardiac surgeons serve four additional sites in Oakland, Fresno, Sacramento, and Honolulu. Future investments in innovation will focus on fetal diagnosis and treatment, cardiac tissue engineering, minimally invasive and robotic surgery, and pediatric molecular cardiology/cardiothoracic genetics. With additional OR and ICU bed capacity, the Heart Center volumes are projected to increase approximately 30% over the next decade.

Transplantation

Adult Transplantation: Transplantation is a growing area with the U.S. Approximately 21,000 transplants across kidney, liver, pancreas, and combined kidney/pancreas procedures are performed annually. A leading challenge for this specialty is an insufficient supply of organs. Several of the key trends in transplantation are focused on addressing this challenge and are completely aligned with the distinctive advantages of the Stanford Transplantation program.⁴ Driven largely by the increase in living donor organs, the number of transplants in the United States is steadily growing.

Stanford's competitive advantage is based on its distinction as the leader in the local market in clinical outcomes, its preeminent position in translational research, especially in tolerance induction techniques, and several prominent innovations in patient care including minimally invasive procedures, steroid minimization and avoidance techniques, and antimicrobial prophylaxis (CMV). The new Stanford Institute for Immunology, Transplantation, and Infection as well by our efforts in stem cell research will further advance these programs.

Near-term strategies critical for the program's success include expanding liver and kidney waiting lists through outreach efforts,⁵ being the first to the regional market with an Intestinal Transplant Program, and developing relationships with pharmaceutical companies to encourage clinical trials.

Successful execution of the above should result in the growth of Stanford transplant volumes of between 2% and 5% per year through 2008. A stronger outreach effort could potentially double this growth rate in two to three years.

Pediatric Transplantation: The transplant programs at LPCH are world renowned for their technical skill and their ability to manage complex cases such as very small infants and patients with primary hyperoxaluria, TPN-induced liver disease and other high-risk

⁵ These include: (a) Minimally invasive procedures, where Stanford is a leader, (b) Tolerance enhancing drugs, where Stanford is among the leaders in less toxic immunosuppressive regimens, (c) Increase in living donations, where Stanford's share is twice the national average.

⁶ With special focus on East Bay, Central Valley, and Las Vegas regions.

conditions. According to the United Network for Organ Sharing (UNOS) and the U.S. Scientific Registry of Transplant Recipients, the liver transplant program ranks second in the nation in pediatric volume (29 in CY2003), while the pediatric kidney transplant program records 100% 1-year graft survival and 100% 3-year patient survival. In addition to kidney and liver transplantation, the Center began performing intestinal transplants in FY01 and is the only Center in northern California and the Pacific Northwest to provide this life-saving treatment for children with intestinal failure. Pioneering research in areas such as steroid-free immunosuppression and dialysis in low birth weight infants provides a solid foundation for the outstanding performance of our clinical programs.

Approximately 20 kidney transplants and 25 liver transplants are performed each year at LPCH. New programs such as intestinal transplantation will provide opportunities for future growth. A new expanded LPCH outpatient dialysis center scheduled to open in the 4th quarter of FY05 will double our capacity to provide dialysis to patients awaiting kidney transplant. In addition, an extensive network of outreach clinics spanning northern and central California, Hawaii, Oregon, Washington, and Alaska facilitates referrals and pre- and post-transplant care for liver and intestinal transplant patients.

Other Areas of Clinical Growth and Integration

SHC Orthopedics: A massive demographic shift is beginning as the leading edge of the baby boomers begins to turn 60 in the next two years. This huge segment of the population, which comprises 77 million individuals, will move from early middle age into a period of maximum healthcare utilization. This change is expected to result in a dramatic increase in the demand for a full array of orthopedic services. Orthopedics is a diverse service line comprising several components: (a) Spine Surgery, (b) Sports Medicine, (c) Joint Replacement (Arthritis), (d) Fracture Care, (e) Cancer, and (f) Hand. National market estimates project a 17% growth in inpatient volumes and a 33% growth in outpatient volumes between 2004 and 2015. The recent recruitment of Dr. William Maloney as Chair of Orthopedic Surgery will enable the formation of a Center for Orthopedic and Sports Medicine. Over the next several years we envision adding ten to fifteen new orthopedic faculty, which will double the size of the department. In addition, contingent on program accreditation, we plan to add four fellowships between FY 2006 and FY 2007. We are also planning the activation of an ambulatory orthopedic facility as a part of an ambulatory services facility.

The LPCH orthopedics strategy will be developed in conjunction with Dr. Maloney over the next 12-24 months.

Pregnant Women and Newborns: The Johnson Center for Pregnancy and Newborn Services at LPCH is a comprehensive clinical service line that integrates obstetrical and neonatal services and provides a full continuum of care for pregnant women and newborns. With over 5,200 deliveries each year, the Johnson Center is the third busiest delivery service in the Bay Area. The neonatal service includes 66 beds on-site at LPCH as well as off-site nurseries in three locations (discussed further below). The regional

network supporting this service also includes professional service relationships with three additional hospitals. LPCH is presently exploring options for expanding obstetric services at local community hospitals to reduce capacity constraints at this facility, and no additional growth is planned for the service at LPCH. Neonatal services will continue to grow, in coordination with the expansion of other pediatric services both on-site and at off-site locations.

In addition to these internal program priorities, the success of clinical initiatives has required the development of corresponding clinical care delivery strategies for each of our major market segments. Although existing within a single medical center, SHC and LPCH are distinct providers and occupy distinct positions within markedly different healthcare markets. As a result, SHC and LPCH, in conjunction with the School, have each approached the development of strategic clinical services plans from the perspectives that are most appropriate to their patient base.

SHC is both a teaching hospital and a community hospital. As such, it must attend to its local (community hospital) market as well as the much larger regional, national, and international markets that are required to support the tertiary and quaternary services associated with its academic missions. In contrast, as a specialty children's hospital, LPCH must serve a much larger population base with a predominant focus on tertiary/quaternary care through partnerships with many different provider networks and healthcare systems

In developing this clinical strategy and supporting tactics, only a portion of which is shown here, it is assumed that: (a) Inpatient Services will become increasingly tertiary, surgical, and intensive-care focused, (b) Ambulatory Services will expand and will include both increasingly high-tech services and care of patients with chronic disorders, and (c) Off-site Services will complement those provided at the Medical Center and also act as a feeder to the Medical Center.

Four sustainable differentiators are critical to the execution of the SUMC strategy:

1. SUMC's unique position to deliver cutting-edge clinical care driven by outstanding faculty and the benefits of translational research.
2. SUMC's focus on service excellence that spans the entire patient experience - from getting an appointment, through the clinical event, and all the way to getting a simple and easy-to-read bill.
3. SUMC's recognition that building and sustaining operational excellence must become a core-competency.
4. SUMC's ability to leverage, aggressively but judiciously, the value of the Stanford brand.

The fundamental challenge of the medical center will be transfer these factors into successful clinical program and market strategies while both sustaining and enhancing the education and research mission that make SUMC unique and world class.

The Professoriate and Workplace

With a defined cap on our faculty size of 900 we are a small school of medicine compared to our peers (we are currently in the 750 range). This small size puts a premium

on clarity of functions and career paths within our various faculty groups. Significant efforts have been made to better define faculty development according to functions (Investigator, Clinical Scholar/Investigator, Clinician Educator) and to develop the appropriate guidelines to optimize career development. Having further clarified the role of the Clinician Scholar/Investigator in 2002-2003, we focused on the functions of the Clinician Educator in 2004. With these various roles in place we have the necessary career pathways to further optimize our academic medical center. We recognize the important but different roles played by those whose primary focus is research, clinical research and patient care, and patient care, although we expect that all faculty will participate in education.

We have also initiated a formal process to address ways of streamlining the faculty Appointments and Promotions process. For the past several months a committee chaired by Dr. Rob Jackler has been working diligently on this important initiative. The group provided a very thoughtful update just before the holidays, and they plan to have their final report by April 2005. A key recommendation is likely be that the School should develop a web-based system that makes the whole process more seamless and expeditious.

Promoting and assuring a Respectful Workplace has been an ongoing initiative during the past three years and will continue into the future. While we all recognize that a complex workplace like the medical school of an academic medical center evokes many stresses and strains, it is an imperative that a code of respect and dignity be achieved among all who work here. We have a policy of zero tolerance for harassment or abuse within the workplace, which we have acted on in the past years and will continue to in those coming. However no policy can be effective without the continued and ongoing efforts and surveillance of our entire community. Should you have concerns please bring them to the attention of Dr. David Stevenson, Senior Associate Dean for Academic Affairs (david.stevenson@stanford.edu), Ms. Cori Bossenberry, Director of Human Resources (corib@stanford.edu), or Ms. Martha McKee, Ombudsperson (martha.mckee@stanford.edu). We will work closely with you and do our very best to resolve any concerns that are raised.

Among our most significant recent accomplishments has been the creation of a new Senior Associate Deanship for Diversity and Leadership and the appointment of Hannah Valantine, M.D. as our first Dean in this area. In 2005 we will undertake the development of a complete strategic plan for this new office that will help to establish our institutional vision and set our programmatic priorities. This effort will be initiated later this month when we devote a major component of the School's annual strategic leadership retreat to an exploration of the many facets of diversity and leadership in academia.

Information Technology

Thanks to the leadership of Dr. Henry Lowe, Senior Associate Dean for Information Resources and Technology, and his colleagues, considerable progress has

been made in further developing the information systems and technology platforms and applications for the School of Medicine.

Perhaps the most visible evidence of change is the comprehensive new Website for the School of Medicine (see <http://www.med.stanford.edu/>). While this is a work in progress it is already an outstanding accomplishment that has contributed significantly to the image of the School and more importantly to the accessibility to a broad array of information.

In tandem with the improvements on the Website per se, IRT also implemented a Web-based Community Academic Profiles (CAP) system that allows faculty to easily maintain a publicly accessible profile of their scholarly activities while supporting access to this information from multiple locations on the School's Web site. This resource will have significant impact on promoting interactions and collaborations or in simply helping interested individuals to learn more about the work going on at Stanford.

IRT also recently deployed the first phase of a Web-based system that allows public access to information on clinical trials at Stanford. This is most timely and consonant with the recent interest by important constituencies (e.g., NIH, FDA, medical journals, industry and the government) in this topic.

In addition, the School's wireless network has been extended to cover public areas, including Lane Medical Library and major teaching facilities. This has enabled the replacement of many individual-owned insecure wireless access points, which have been replaced with secure wireless technology managed by IRT. A secure data network for School of Medicine users has also been deployed in the new Clinical Cancer Center. Because of the importance of security and privacy, a HIPAA-compliant data center for the School has been instituted along with state-of-the-art network security technology to protect the School's IT infrastructure.

Recently, the Lane Library web site has been redesigned to support integrated searching across multiple knowledge resources, improved access to full-text materials and more flexible off-campus access.

IRT also coordinated an agreement with Lucile Packard Children's Hospital and Stanford Hospital and Clinics to allow the electronic transfer of clinical data from both hospitals into the School's new STRIDE research data repository. STRIDE (Stanford Translational Research Integrated Database Environment) is a standards-based repository of clinical and research data designed by IRT to support the School's translational research mission.

Another advance has been the recent inauguration of the Strategic Center for Clinical Informatics, a new academic entity at the School focused on applied informatics research and training. Its goal is to contribute to the development of world-class information technology solutions supporting human health.

Finance and Administration

When an administration works well, it should be able to make the work of the school happen without too much fanfare. That said, the complexities of an academic medical center – with its intricate alignments (and sometime misalignments) between faculty, their departments, the School, University and affiliated Hospitals – can pose quite a challenge.

Despite the many challenges we face, the School remains financially healthy with an endowment balance (as of August 31, 2004) of \$1.404 B and consolidated expendable fund reserves of \$360,341,000. While this is encouraging, it is important to note that the majority of these endowment and expendable funds are in restricted pools and most reside in the departments. Thus their availability for new school-wide initiatives is limited.

Our overall FY05 consolidated budget for the School is \$816M (exclusive of the affiliated hospitals) but the demands we face going forward are considerable, especially if we are to fully realize our strategic initiatives in *Translating Discoveries*. While I have no doubt that we will continue to make progress, we will need to make strategic choices and set our priorities and timelines. As much as we would like to proceed with all the desired faculty recruitments or program developments as rapidly as possible, we will need to plan for these to unfold on a multi-year basis. A number of these recruitments will be focused in the Stanford Institutes of Medicine whereas others will be based in departmental programs.

The not infrequently contentious flow of funds between the School and Affiliated Hospitals has been an important issue (as it is in virtually every academic medical center). While a panacea is unlikely, a joint workgroup represented by School and SHC leaders has spent considerable effort and many dozens of hours since the early Fall to develop a more effective model for “funds flow”. It is anticipated that an appropriate model will be ready to implement for the FY06 budget process that will commence this Spring. Obviously more will be reported on this important topic.

One of our most significant challenges (indeed one for the entire medical center) is facilities. We have a critical need to replace our education and library facilities as well as to develop additional laboratory research space. As you likely know we have been working on a medical school master plan for some time. Over the past year we have coordinated these plans with both Stanford Hospital & Clinics and Lucile Packard Children’s Hospital to construct a medical campus facilities plan. This is still an organic work in progress but it does look forward over the next 10-25 years to address the critical needs that exist to support our missions in education, research and patient care. The School of Medicine has also worked closely with the University in the development of the Science, Engineering and Medicine Campus (SEMC). This plan will result in a new Science and Engineering Quad as well as our School of Medicine Learning and Knowledge Center and the Stanford Institutes of Medicine #1 Research Laboratories. Raising the funds for these facilities is one of our most important current tasks since it remains our hope to have construction completed within the next several years.

Communications, Government Relations and Advocacy

During the past year the School's communication strategy has become much more refined thanks to the leadership of Paul Costello and his staff. Given the importance of assuring that our message is well conveyed both within the university and to our surrounding communities – locally and globally – it is imperative that we pursue a number of vehicles to best optimize our agenda. While there have been a number of cogent examples during the past year, I believe that the Fall 2004 issue of our magazine *Stanford Medicine*, which focused on “The Science and Politics of Stem Cell Research” (<http://mednews.stanford.edu/stanmed/2004fall/>), best demonstrates an integrated approach to communication, science education and public policy. Indeed, this issue, which was distributed nationally as well as in California, played an important role in educating policy makers and other leaders about the important issues surrounding the topic of stem cell research. While the passage of Proposition 71 on November 2nd and the subsequent establishment of the California Institute for Regenerative Medicine was due to the efforts of many – and especially the trust of the voting public in California – there is no question that Stanford played an important role in this process. In addition to the publications and communications, the advocacy by Stanford scientists Paul Berg, Irv Weissman and others also played a key role.

In tandem with the communication efforts, our efforts in government relations have also focused on the national debate regarding stem cell research as well as a number of key topics involving the National Institutes of Health. These range from serious issues emerging from violations of conflict of interest at the NIH to the NIH budget and, as we move to 2005, the reauthorization of the NIH. Given the central role that the NIH plays in the life and integrity of the biomedical research establishment, and especially for research-intensive schools like Stanford, these issues are of critical importance.

Development and Philanthropy

Medical Schools have a number of missions, most of which require additional financial support to be successful. For example, tuition hardly covers the cost of education and, while Stanford is quite successful in competing for research dollars from the NIH or private foundations and sources, additional institutional support is necessary to cover the cost of carrying out a highly successful research program. While in the past clinical care programs served as a source to help support education and research, this source has become much more constrained in the past 15 years through the pressures of managed care, etc. Accordingly, medical schools (like universities) are highly dependent on the support that comes from private donors and foundations to help fund and support mission critical programs.

Without question we are fortunate to have accrued a significant endowment for the School of Medicine. While the endowment is essential to our financial success, it is not sufficient to allow us to develop the exciting new programs laid out in our Strategic

Plan, *Translating Discoveries*. Certainly we must be enormously grateful to all who have provided financial support to Stanford Medicine in the past and who continue to do so today. While the results of our Medical Development Program have been gratifying, we do believe that we can – and must – do better. Accordingly, we are pleased to welcome Mr. Doug Stewart as the Associate Vice President for Medical Development. Mr. Stewart joined Stanford in October and has been working hard on developing a plan that will underpin our Medical Center Capital Plan. Many hundreds of millions of dollars over the next decade will be required to support new facilities for education, research, and patient care and their related programs. Coordinated efforts between the School and Hospitals and between the Medical Center with the University will be essential. Indeed, our very future as a leading research-intensive medical school will depend on the success of these philanthropic efforts and capital campaign. I certainly pledge to do all that I can to help support this important effort.

Planning for Regenerative Medicine Initiatives

As I mentioned in the December 13, 2004 Dean's Newsletter, we are instituting a number of plans to organize our efforts in stem cell research so that we can be as prepared as possible to contribute to the efforts of the newly established California Institute on Regenerative Medicine (CIRM). As you will recall the CIRM will oversee the implementation of the \$3 Billion approved by the State of California for stem cell research. To assure that our faculty and Stanford community are optimally engaged and informed, several committees and subcommittees are being formed within the Stanford Institute for Cancer/Stem Cell Biology.

These plans will include a ***Program In Regenerative Medicine (PRM) Advisory Committee*** that is charged to initiate and coordinate all Stanford efforts in Regenerative Medicine. The PRM Advisory Committee will be chaired by ***Dr. Michael Longaker, Deane P. and Louise Mitchell Professor***. Among its responsibilities, the PRM Advisory Committee will establish and coordinate PRM subcommittees (see below), advise the CSCI Steering Committee and Director, communicate opportunities in regenerative medicine to all interested Stanford faculty and set priorities and processes for proposals to the CIRM. There will be five subcommittees under the PRM including:

1. ***The Regenerative Medicine Research Subcommittee, chaired by Dr. Roel Nusse***, will coordinate and disseminate information from the CIRM regarding investigator-initiated grants, program-project grants, inter-California collaborative initiatives, etc. This subcommittee will also serve as an internal group to generate new ideas for stem cell research and to facilitate the development of research proposals.
2. ***The Regenerative Medicine Education Subcommittee, chaired by Dr. Minx Fuller***, will establish and oversee a seminar series in stem cell biology and regenerative medicine. In addition, this subcommittee will help develop the proposal for a Scholarly Concentration for medical students in stem cell biology and regenerative medicine and will also develop relevant programs for graduate

students and postdoctoral trainees. Further, this subcommittee will coordinate education programs among BioX, Bioengineering, H&S, the School of Medicine and other interested partners at Stanford.

3. ***The Regenerative Medicine Bioethics and Conflict of Interest Subcommittee, chaired by Dr. David Magnus***, will establish, monitor and communicate internal policies and procedures for the conduct of stem cell research and associated clinical practices, within accepted bioethical guidelines. Further, this subcommittee will establish, monitor and communicate internal policies and procedures for identifying and avoiding conflicts of interest in the conduct of stem cell research. In addition, consult services for bioethical evaluation of stem cell research proposals will be developed.
4. ***The Regenerative Medicine Human Embryonic Stem Cell/Nuclear Transplantation Operations Subcommittee, co-chaired by Drs. Linda Giudice and Julie Baker***, will develop policies and processes to carry out derivation and maintenance of human embryonic stem cell and human nuclear transfer stem cell lines. This subcommittee will also coordinate relevant Stanford IRB and CIRM efforts for developing the processes for submission of proposals involving human embryonic stem cells or nuclear transfer proposals. The subcommittee will also explore the establishment of GMP facilities and develop policies for the distribution and sharing of cell lines, etc (including Material Transfer Agreements).
5. ***The Regenerative Medicine Facilities Committee, chaired by Dr. Michael Longaker***, will take the lead in preparing the facilities grant to the CIRM and will also develop and recommend policies and procedures to ensure compliance with Federal Human Stem Cell restrictions and guidelines.

We expect that the PRM Advisory Committee and its five subcommittees will orchestrate our Stanford wide opportunities for taking a leading role in stem cell research. As noted earlier the Cancer Stem Cell Institute and PRM Advisory Committee are planning a Retreat for Monday January 31st (rescheduled from the one mentioned in the Dean's Newsletter for December 15th). Details regarding this Retreat will be forthcoming, If you have questions feel free to contact Dr. Longaker (longaker@stanford.edu) or Dr. Giudice (giudice@stanford.edu).

Everything in Perspective

I doubt there is anyone not directly affected by the overwhelmingly tragic effects in Asia who did not immediately put their own life issue into a different perspective. I also certain that many in our community have done whatever they can to reach out in support of the victims of the Tsunami in whatever ways are feasible. The Lucile Packard Children's Hospital has provided help to children impacted by the Tsunami, and I refer you their the article on their homepage at <https://lpchintranet.stanfordmed.org/>. Dr. Yaso

Natkunam, a Sri Lankan physician in the Department of Pathology, will be traveling to Sri Lanka as a volunteer for the relief efforts. While some relief agencies, such as Doctors Without Borders, have received sufficient volunteers and funds to carry out their operations, many smaller organizations are still in need of help. Money is the most important thing they need. If you are interested you can make donations to the International Medical Organization at <http://www.thousa.org/index.htm>. Contributions to UNICEF, the WHO or Red Cross are also appreciated. Their websites are listed at <https://lpchintranet.stanfordmed.org/>.

Appointments and Promotions

- **Anna Bruckner** has been appointed Assistant Professor of Dermatology and Pediatrics at the Stanford University Medical Center, effective 12/1/2004.
- **Howard Chang** has been appointed to Assistant Professor of Dermatology at the Stanford University Medical Center, effective 12/1/2004.
- **John Desmond** has been reappointed to Assistant Professor of Radiology at the Stanford University Medical Center, effective 2/1/2005.
- **Gabriel Garcia** has been promoted to Professor of Medicine (Gastroenterology and Hepatology) at the Stanford University Medical Center, effective 12/1/2004.
- **Kenan Garcia** has been promoted to Associate Professor of Microbiology and Immunology and Structural Biology, effective 1/1/2005.
- **Jill Helms** has been appointed to Associate Professor of Surgery at the Stanford University Medical Center effective 1/1/2005.
- **Youn Kim** has been promoted to Professor of Dermatology at the Stanford University Medical Center, effective 12/1/2004.
- **Clete Kushida** has been promoted to Associate Professor of Psychiatry and Behavioral Sciences at the Stanford University Medical Center, effective 12/1/2004.
- **Craig Levin** has been appointed Associate Professor (Research) of Radiology at the Stanford University Medical Center, effective 1/1/2005.
- **Linda Lotspeich** has been promoted to Associate Professor of Psychiatry and Behavioral Sciences at the Stanford University Medical Center, effective 12/1/2004.
- **Tobias Meyer** has been promoted to Professor of Molecular Pharmacology at the Stanford University Medical Center, effective 12/1/2004.
- **Robert Mindelzun** has been reappointed to Professor of Radiology at the Stanford University Medical Center, effective 9/1/2004.
- **Marc Pelletier** has been appointed to Assistant Professor of Cardiothoracic Surgery at the Stanford University Medical Center, effective 12/1/2004.
- **Joseph Presti** has been promoted to Professor of Urology at the Stanford University Medical Center, effective 12/1/2004.
- **Terry Robinson** has been reappointed to Assistant Professor of Pediatrics (Pulmonary) at Lucile Salter Packard Children's Hospital, effective 2/1/2005.

- ***David Schneider*** has been reappointed to Assistant Professor of Microbiology and Immunology at the Stanford University Medical Center, effective 1/1/2005.
- ***Donald Schreiber*** has been promoted Associate Professor of Surgery at the Stanford University Medical Center, effective 12/1/2004.